DETAILED ACTION

Response to Amendment

Applicant's amendments to the claims, filed 2/28/2011 in addition to a Request for Continued Examination, are accepted and appreciated by the examiner. Applicant has added new claims 19-20.

Response to Arguments

Applicant's arguments filed 2/28/2011 have been fully considered but they are not persuasive.

Specifically, applicant argues that Hackett fails to disclose a system wherein "at a point in time of receiving a first power level, the first timing sequence control system is triggered" and wherein "the first and second timing sequence control systems receive the first power level throughout the first and second intervals" as claimed.

Applicant supports this by pointing out that Hackett uses a set of synchronization pulses at a set frequency called a "tone burst" which is not a power level maintained through the response timing periods of the sensor units. The examiner agrees with applicant's understanding of the prior art, but respectfully disagrees with respect to applicant's interpretation of the language of the claims.

Although Hackett does use a set of pulses, from Fig 1 it is clear that the sensor units do not begin counting the response periods until the end of this "tone burst". The sensors wait for the end of the sequence to begin counting, which means they are waiting for a return to a nominal baseline power level V_L, to signal the sensors to begin counting. Thus it can be fairly said that the "triggering" is in response to receiving a first power level of V_L which follows the

burst. Because this same voltage is maintained throughout the response periods, this level V_L can be fairly said to be received by the sensors “throughout the first and second intervals” as claimed.

Thus it is maintained that Hackett meets each and every limitation of the language of claims 5-13, 15 and 17-18.

With respect to new claims 19-20, new prior art Farley (US pat 4203096) is relied upon as disclosing operation closer in concept to applicant's specification than Hackett. However, this does not constitute an admission by the examiner that Hackett does not anticipate claims 19-20. From Fig 1 of Hackett, it could be fairly said that the "first voltage" V_L is an "increase" because the final pulse in the tone burst shown by Hackett is low. Thus the voltage is ‘raised’ from this low to the V_L level to indicate the end of the tone burst and thus initiate the synchronization.

It is also noted that, per guidance from the MPEP, independent claims 5 and 9 are not rejected twice. However, the examiner maintains that new prior art Farley applies to these claims as well.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1.

Claims 5-13, 15 and 17-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Hackett (US pat 4754262).

With respect to claims 5 and 9, Hackett discloses a method and apparatus comprising:

1) A first sensor (Fig 2 item 20; *called a 'transponder' but it senses/reports a condition and thus is a 'sensor'*) powered by a line (Fig 2 item 45), the first sensor preprogrammed with a first time interval for transmitting data via the line (Fig 3 items 62-64 and column 2 lines 42-45). *Each transponder has a unique "identity number" which corresponds to a unique time delay as set by the jumpers and resistors.*

2) A second sensor (Fig 2 item 20; *there are multiple transponders*) powered by the line (Fig 2 item 45) in parallel with the first sensor, the second sensor preprogrammed with a second time interval for transmitting data via the line (Fig 3 items 62-64 and column 2 lines 42-45). *Each transponder has a unique "identity number" which corresponds to a unique time delay as set by the jumpers and resistors.*

3) A first timing sequence control system included in the first sensor (Fig 3 item 54). *Again, each transponder includes its own programmable timer to generate a unique delay.*

4) A second timing sequence control system included in the second sensor (Fig 3 item 54). *Again, each transponder includes its own programmable timer to generate a unique delay.*

5) Wherein, at a point in time of receiving a first power level (Fig 1), the first timing sequence control system is triggered and, upon being triggered, controls the transmission of the first sensor so that the first sensor transmits data via the line for the first time interval, and wherein, at a point in time of receiving the first power level, the second timing sequence control system is triggered and, upon being triggered, controls the transmission of the second sensor so that the second sensor transmits data via the line for the second time interval after the first time interval (Figs 1-2 and column 2 lines 3-17). *The controller (everything to the right of the transformer in Fig 2 more or less) transmits a synchronization signal ("tone burst") to all transponders in the form of a voltage signal as shown in Fig 1. At the end of the synchronization, the voltage is returned to a nominal value which is a 'first power level'. Because the transponders do not start counting until the end of the synchronization signal, which is the 'first power level', they can be said to act in response to this 'first power level'. At this point, each transponder waits for a period equivalent to a unique delay assigned to it before responding. The result is that each transponder responds to the same interrogation signal at different times.*

6) Wherein, upon being triggered, the first and second timing sequence control systems control the transmission of the first and second sensors so that the first and second sensors each transmit data via the line at least once independent of any change in a power level received by the first and second timing sequence control systems (Fig 1). *The control unit sends no further information after the synchronization signal terminates. From there each transponder responds depending only on its unique delay.*

7) Wherein the first and second timing sequence control systems receive the first power level throughout the first and second intervals (Fig 1). *As discussed above, the 'first power level' is the nominal voltage. Although the voltage rises above and falls below this level as part of the synchronization signal, the transceivers do not respond* <u>*until it has stabilized*</u> *to this nominal level. The final nominal level then identifies the end of the synchronization signal and causes the transceivers to begin the counting out of their unique delays.*

With respect to claims 6 and 10, Hackett discloses that the first and second sensors are always supplied at least a second power level, the second power level being lower than the first power level (Fig 1 and column 2 lines 36-39). *The voltage supplied to the transponders fluctuates about a baseline (shown in Fig 1) which corresponds to the claimed 'first power level'. During communication, the voltage is alternatively raised and lowered as shown. The lowest that the voltage ever falls can be fairly said to be a 'second power level... lower than the first power level' which is always supplied.*

With respect to claims 7 and 11, Hackett discloses that the first and second sensors detect the first power level via a voltage change (Fig 1). *The synchronization signal is a voltage signal.*

With respect to claims 8 and 12, Hackett discloses that the first and second sensors (Fig 2 items 20) are connected to a control unit via the line (Fig 2 item 45), data transmission during the time between the end of the first time interval and the end of the second time interval only being provided from the sensors to the control unit, and not from the control unit to the sensors (Fig 1). *As explained above, the control unit does not send any further data after the end of the*

synchronization signal. Communication, as shown in the bottommost line of Fig 1, is from the transponders to the control unit only at this point.

With respect to claims 13 and 18, Hackett discloses that the first and second sensors are always supplied at least a second power level, the second power level being lower than the first power level (Fig 1 and column 2 lines 36-39; *the voltage supplied to the transponders fluctuates about a baseline (shown in Fig 1) which corresponds to the claimed 'first power level'. During communication, the voltage is alternatively raised and lowered as shown. The lowest that the voltage ever falls can be fairly said to be a 'second power level... lower than the first power level' which is always supplied*), that the first and second sensors detect the first power level via a voltage change (Fig 1; *the synchronization signal is a voltage signal)*, and that the first and second sensors (Fig 2 items 20) are connected to a control unit via the line (Fig 2 item 45), data transmission during the time between the end of the first time interval and the end of the second time interval only being provided from the sensors to the control unit, and not from the control unit to the sensors (Fig 1). *As explained above, the control unit does not send any further data after the end of the synchronization signal. Communication, as shown in the bottommost line of Fig 1, is from the sensors to the control unit only at this point.*

With respect to claims 15 and 17, Hacket discloses that the first and second sensors are always supplied at least a second power level, the second power level being lower than the first power level (Fig 1 and column 2 lines 36-39; *the voltage supplied to the transponders fluctuates about a baseline (shown in Fig 1) which corresponds to the claimed 'first power level'. During communication, the voltage is alternatively raised and lowered as shown. The lowest that the voltage ever falls can be fairly said to be a 'second power level... lower than the first power level'*

which is always supplied), and that the first and second sensors (Fig 2 items 20) are connected to a control unit via the line (Fig 2 item 45), data transmission during the time between the end of the first time interval and the end of the second time interval only being provided from the sensors to the control unit, and not from the control unit to the sensors (Fig 1). *As explained above, the control unit does not send any further data after the end of the synchronization signal. Communication, as shown in the bottommost line of Fig 1, is from the sensors to the control unit only at this point.*

2.

Claims 19-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Farley (US pat 4203096).

With respect to claims 19 and 20, Farley discloses an apparatus and method comprising:

1) A first sensor powered by a line (Fig 1 item 12; *sensor shown in more detail as element 34 in Fig 3a*), the first sensor preprogrammed with a first time interval for transmitting data via the line (Fig 1 element 28). *Each sensor module has such a timer. This timer is used to determine when each device transmits as shown in Fig 2.*

2) A second sensor powered by the line in parallel with the first sensor (Fig 1 item 12; *sensor shown in more detail as element 34 in Fig 3*), the second sensor preprogrammed with a second time interval for transmitting data via the line (1 element 28). *Each sensor module has such a timer. This timer is used to determine when each device transmits as shown in Fig 2.*

3) A first timing sequence control system included in the first sensor (Fig 1 item 28).

4) A second timing sequence control system included in the second sensor (Fig 1 item 28). *Though only shown once in the figures, each sensor module has such a timing control system.*

5) Wherein, when the first sensor detects an increase in the power received from the line to a first power level, the first timing sequence control system is triggered (Fig 2) and, upon being triggered, controls the transmission of the first sensor so that the first sensor transmits data via the line for the first time interval (Abstract and Fig 2 and column 3 line 64- column 4 line 7). *The control unit 10 synchronizes the sensor modules 12 by means of a "momentary interruption" as shown in Fig 1. In response each module 12 resets its internal timer. These timers are unique to each module such that they respond in a multiplexed fashion as shown in Fig 2.*

Although described as a "momentary interruption", it can be fairly called "an increase in the power received from the line to a first power level" as claimed. It is described as going from 0v to a normal power voltage which is "a first power level". Zero to any positive voltage is fairly "an increase". If the voltage were to stay low, the modules would be un-powered and therefore not respond. Thus, although described as a "momentary interruption", the timer operation and sensor replies are in response to the <u>return</u> to a positive voltage.

6) Wherein, when the second sensor detects an increase in the power received from the line to a first power level, the second timing sequence control system is triggered (Fig 2; *each sensor module has its own timer and response*) and, upon being triggered, controls the transmission of the second sensor so that the second sensor transmits data via the line for the second time interval after the first time interval (Abstract and Fig 2 and column 3 line 64- column 4 line 7). *The control unit 10 synchronizes the sensor modules 12 by means of a*

"momentary interruption" as shown in Fig 1. In response each module 12 resets its internal timer. These timers are unique to each module such that they respond in a multiplexed fashion as shown in Fig 2.

7) Wherein, upon being triggered, the first and second timing sequence control systems control the transmission of the first and second sensors so that the first and second sensors each transmit data via the line at least once independent of any change in a power level received by the first and second timing sequence control systems (Abstract and column 2 lines 27-32 and column 3 line 64 - column 3 line 7).

8) Wherein the first and second timing sequence control systems receive the first power level throughout the first and second time intervals (Fig 2). *This level is maintained throughout all module responses.*

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Muggli (US pat 4568919) discloses a similar polling scheme to Farley.

Akiyama (US pat pub 20030076221) discloses sensors which report based on a timing without being polled. However, the examiner notes that when the system is powered on for the first time, this would comprise raising the power to a first level as claimed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN TEIXEIRA MOFFAT whose telephone number is (571)272-2255. The examiner can normally be reached on Mon-Fri, from 7:00-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jonathan C. Teixeira Moffat/
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